

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 9363SG10/JFC/nbs	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. PCT/SG2003/000011	International Filing Date (day/month/year) 20 January 2003	Priority Date (day/month/year) 20 January 2003
International Patent Classification (IPC) or national classification and IPC Int. Cl. <sup>7</sup> H01L 23/48, 23/482, 23/485, 23/52		
Applicant SYSTEMS ON SILICON MANUFACTURING COMPANY PTE LTD et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheet(s).

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 27 July 2004	Date of completion of the report 4 August 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer  <b>GREG POWELL</b> Telephone No. (02) 6283 2308

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SG2003/000011

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed. the description, pages , as originally filed,

pages , filed with the demand,

pages , received on with the letter of

 the claims, pages , as originally filed,

pages , as amended (together with any statement) under Article 19,

pages , filed with the demand,

pages , received on with the letter of

 the drawings, pages , as originally filed,

pages , filed with the demand,

pages , received on with the letter of

 the sequence listing part of the description:

pages , as originally filed

pages , filed with the demand

pages , received on with the letter of

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished4.  The amendments have resulted in the cancellation of: the description, pages the claims, Nos. the drawings, sheets/fig.5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/SG2003/000011
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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims 1-27	YES
	Claims	NO
Inventive step (IS)	Claims 1-27	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-27	YES
	Claims	NO

**2. Citations and explanations (Rule 70.7)**

Claims 1-27 meet the criteria set forth in PCT Article 33(2)-(4) for novelty, inventive step and industrial applicability. The prior art published before the priority date does not disclose a conductive line comprising a first conductive layer covered by a Titanium-rich Titanium Nitride layer, which is covered by a Titanium layer.

The prior art listed in the ISR all disclose a metallisation formed in a semiconductor comprising a conductor formed on a Titanium Nitride layer, which in turn is formed on a Titanium layer. There is no disclosure of a Titanium-rich Titanium Nitride layer, and no suggestion that such a substitution could be made. It is clear from the discussion under the heading "Background Art" on page 1 of the present application that it is this feature which distinguishes the present invention from the prior art.